State of California
Department of Food and Agriculture
Division of Measurement Standards

California Type Evaluation Program
Certificate of Approval
for Measuring Devices

For:	Submitted by:
Compressed Natural Gas (CNG)	Greenfield Compression, Inc.
Retail Motor Fuel Dispenser, Electronic Computing	909 Bowser Road
Model: SGX.XXXX*	Richardson, TX 75081
Capacity: Maximum Total Price: $9999.99	Tel: (972) 889-2400
Maximum Total Volume: 999 999	Fax: (972) 234-4829
Maximum Unit Price: $9.999	Contact: Tony Feger
Accuracy Class: 2.0	

Standard Features and Options

Gilbarco Advantage Series computing register
Micro Motion Model RFT 9739 Version 3.6 transmitter
Battery back-up for 72 hours
Volume totalizer maximum: 9 999 999.999

Micro Motion Model DH038 sensor
Back lighted liquid crystal displays
Temperature compensation fill
Design pressure: Maximum 5000 PSI

Category 2 method of sealing (see Sealing on Page 2)
Option: Card reader in dispenser (CRIND)

Model Designation:

Basic Model	X	.X	X	X* or XX
SG	1 = Single hose 2 = Two hoses	1 = No CRIND 2 = CRIND	2 = Storage pressure 5000 psig, P30 3 = Storage pressure 5000 psig, P36/P30 4 = Storage pressure 5000 psig, P36e P30 (3000 psig) and P36 (3600 psig) represent fill pressure and associated hose	User Defined Nozzle Type Non-metrological
* X for nozzle type 0 through 9 XX for nozzle type 10 and above				

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: July 13, 2001

_____
Mike Cleary, Director

Greenfield Compression Inc.
Compressed Natural Gas (CNG), Retail Motor Fuel Dispenser
Electronic Computing
Model: SGX.XXXX

Application: For use as a dispenser in retail motor fuel service stations for measuring CNG as an automotive fuel. The mass flow meter measures the total mass passed through the sensor and is displayed as gasoline gallon equivalent: 5.660 lb of natural gas (GGE). The GGE, the total computed price, and the price per unit are displayed on a Gilbarco electronic computing register. For use with approved and compatible card reader (island or CRIND).

Identification: The required information is located on the outside surface of the dispenser housing.

Sealing: The meter calibration and configuration parameters are accessed with a switch located inside the housing of the mass flow transmitter Model 9739. The Model 9739 can be sealed by removing the transmitter cover, moving the switch to the ON position, and pressing the SENSOR ZERO button to initiate the security function. Replace the cover and thread a wire security seal through the holes in the plastic clamp assembly and the plastic cap that covers the clamp mounting screw. The clamp assembly secures the transmitter cover to the base.

The Gilbarco electronic computing register has a magnetic keypad inside the register housing for accessing the configuration event counter.

Operation: The delivery hose is connected to the fill connector on the receiving vehicle. The dispenser is turned on by moving the interlock handle to the "on" position. After filling, the interlock lever must be in the "off" position before returning the nozzle to the dispenser receptacle.

Test Procedures: A checkweigh scale of sufficient capacity and resolution should be used as a test standard (the minimum increment of the scale should be no greater than one-third the smallest tolerance applied to the dispenser). Conduct at least two increasing/decreasing load and shift tests to determine scale performance and repeatability. If possible, calibrate the scale to minimize need for error weight.

1. Tare or zero a test cylinder and add enough test weights to approximate a target net weight of the test draft.
2. Record the error, remove the test weights to verify there is no change in the net zero condition of the scale, and determine a correction value if necessary.
3. Connect the hose to the cylinder and dispense product until the target weight has been reached.
4. Disconnect the hose and compare the indicated scale net weight to the indicated dispenser weight (display mass on the dispenser by pushing enter two times on the Gilbarco key pad, press enter again to return the display to GGE). Divide the mass indication by 5.660 to obtain the correct GGE value and compare this value to the GGE value displayed on the dispenser. The results must agree exactly.

Test Conditions: This certificate supersedes Certificate of Approval Number 4723-98 and is issued to include the use of a card reader (island or CRIND) with this dispenser and to clarify that the digits at the end of the model number represent nozzle types. The Sulzer Model SG1.129 dispenser, interfaced with a Gasboy Model 2000S-CFN-DET card reader (Certificate of Approval Number 2879(c)-99), was submitted for evaluation. The emphasis of the evaluation was on device design, performance, and interaction with the card reader. The system was tested for agreement of indications and power interruption requirements. The previous test conditions are listed below for reference.

Certificate of Approval Number 4723-98: The Model SG2.134 dispenser was submitted for a field evaluation using a Gilbarco Advantage Series electronic computing register and Micro Motion mass flow metering system (RFT 9739 Version 3.6 transmitter and DH038 sensor). The emphasis of the evaluation was on the device design, performance, and permanence. Initial tests were conducted at several flow rates, pressure ranges, and delivery amounts. Similar tests were repeated after approximately 30 days of use.

The results of the evaluations indicate the system complies with applicable requirements.

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2001 Edition

Tested By: Dan Reiswig (CA), Charles Nelson (CA) 4723-98, Norman Ingram (CA) 4723(a)-01